

## ABSTRACT

Some embodiments provide a memory cell that includes a body region, a source region and a drain region. The body region is doped with charge carriers of a first type, the source region is disposed in the body region and doped with charge carriers of a second type, and the drain region is disposed in the body region and doped with charge carriers of the second type. The body region and the source region form a first junction, the body region and the drain region form a second junction, and a conductivity of the first junction from the body region to the source region in a case that the first junction is unbiased is substantially less than a conductivity of the second junction from the body region to the drain region in a case that the second junction is unbiased.